

BROWN UNIVERSITY
PROVIDENCE 12, RHODE ISLAND

March 30, 1951

Dr. Joshua Lederberg
Department of Genetics
The University of Wisconsin
College of Agriculture
Madison 6, Wisconsin

Dear Dr. Lederberg:

Under separate cover I am sending antiserums for BB34 and BB45. I am glad you got good results with these two strains and I hope W-1 comes through also. Since I got your letter saying that BB34 and W-1 were lactose negative, I transplanted two lactose broths from the same culture that I used to make your transplants. Both are strongly lactose positive. However, we have used W-1 in class work for years to illustrate the speed with which some cultures can utilize the products of lactose fermentation to destroy the acid and return the pH to the alkaline side. In 24 hours at 37° W-1 will give a strong fermentation in lactose as it does in dextrose, but in 48 hours, although gas is still present in the vial, the brom cresol purple indicator shows the pH about 7. Would you please test these strains again in lactose and if they are still negative in your hands, will you send me a transplant. I should have said that BB34 was a normal gas producer when first isolated but is now micro-aerogenic.

BB34 and BB45 were isolated in this laboratory in 1940 as strains of Escherichia coli growing well on s.s. agar, and have been carried in stock ever since. They were isolated from routine specimens of feces collected in hospital wards, mostly from fracture cases. W-1 was isolated in 1941 from a graduate student who was studying the serological relationship of Escherichia coli from one individual. This strain has always had the unusual reaction in lactose that I have described, and as I pointed out has been used every year in class to demonstrate the reaction.

I did not know about the maltose positive and negative characteristics of 26711 but hope to look into it someday. It seems to me that we have encountered more maltose negative or slow maltose fermenters in the coliform group within the last year or two than I have seen altogether in all my work on the coliforms.

I neglected to say in my previous letter that I do not know the source of the container in which I sent you the 40 cultures. I do know, however, that the Florida State Board of Health used such a container routinely a number of years ago and may be still using it for all I know. I have not had a chance to work on the cultures I received from you but a graduate student is interested in your work and wants to try some recombinations, so I shall turn the cultures over to him for the present.

Very truly yours,



C. A. Stuart
Professor of Biology